



4.2.8 Maricopa County

Geography

Maricopa County encompasses 9,226 square miles and is located in central Arizona within the upper Sonoran Desert. The County is bisected by the Salt River, which runs from northeast to southwest and joins the Gila River near the center of the County. Varying in elevation from 436 above sea level to 7,645 feet, the County contains several diverse plant and animal communities. The County has one of the most ample water supplies of any desert region in the west and is supplemented by a series of dams and reservoirs.

Population

Today, the County contains more than half of the Arizona's overall population. Growing 44.8% from 1990 to 2000, the County is expected to have over 5 million residents by the year 2020. If these growth trends continue, the County's population will nearly double by the year 2040. Among the many significant communities are Phoenix, Mesa, Glendale, Scottsdale, Chandler, Tempe, and Peoria. The dramatic growth projected for several of these communities is depicted below.

Maricopa County Population, 1990-2040							
Jurisdiction	1990	2000	2005	2010	2020	2030	2040
Maricopa County	2,122,101	3,072,149	3,648,545	4,217,427	5,276,074	6,207,980	7,009,664
Chandler	90,533	176,581	231,785	221,664	258,915	285,067	305,265
Ft McDowell Reservation	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gilbert	29,122	109,697	178,000	N/A	N/A	N/A	N/A
Glendale	148,134	218,812	236,030	260,561	305,164	339,219	340,320
Mesa	288,091	396,375	452,355	540,608	593,962	635,668	652,461
Peoria	50,168	108,364	137,295	141,185	183,815	213,030	258,608
Phoenix	983,403	1,321,045	1,452,825	1,544,093	1,795,539	2,132,808	2,439,219
Salt River Pima Reservation	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scottsdale	130,069	202,705	223,835	270,763	306,713	356,656	374,032
Tempe	141,865	158,625	160,735	174,769	183,466	186,084	188,647

Note: Figures for 1990, 2000, 2005 from Arizona Dept. of Commerce. Figures for 2010-2040 from AZ DES (projections date from 1997).
Source: Arizona Department of Commerce, May 2003; Arizona Department of Economic Security, February 1997

Economy & Labor Force

The metropolitan Phoenix area is the State's center of economic activity and is also home to a growing high-tech industry. With a civilian labor force of 1,832,453, the majority of the County's workers are employed in the Services sector, followed by Retail Trades, Government (U.S., State, and local), Manufacturing, and Finance/Real Estate/Insurance. Major employers include the State of Arizona, Maricopa County, the U.S. Postal Service, American Express, Arizona State University, Wal-Mart, and Wells Fargo Bank. In 2005 the unemployment rate was 4.1%, which is slightly lower than the statewide average of 4.6%.

Historic Hazard Events

During the development of the original State of Arizona All-Hazard Mitigation Plan, a list of historic hazard events was compiled. Most counties researched local records and governmental databases to update and add records of recent hazards to the state compiled list for use in their plans. Additional hazard records were researched using the same criteria, with the exception that all damages greater than \$1 were included. Therefore, due to the variety of data sources and criteria, it should be kept in mind that the numbers reported reflect the availability of such data from those sources and the numbers are expected to under-predict the losses actually sustained over the past 30 to 40 years. A more thorough search for historic data in future planning efforts is mentioned in the county plans and encouraged by ADEM.

It is our hope that this data coupled with other risk assessment information will prove to be instrumental in assisting the County and State in future planning and mitigation efforts. We believe this can happen by this data accurately indicating which hazards we are most susceptible to; how damaging these hazards can be to us; and the damage costs or costs avoided through future mitigation projects.



Historic Record of Disaster Events in Maricopa County					
Event Type	Total				
	Declared	Undeclared	Fatalities	Injuries	Loss \$
Drought	12	86	0	0	300,000,000
Dust/Sand Storms	0	3	1	41	200,000
Earthquake	0	1	0	0	0
Flooding/Flash Flooding	10	25	21	116	1,285,017,166
Hazardous Materials Incidents	4	35	0	9	100,000,000
Thunderstorms/High Winds	11	68	4	82	396,856,000
Tornadoes/Dust Devils	0	16	0	57	34,300,000
Tropical Storms/Hurricane	1	7	23	0	380,800,000
Wildfire	16	67	0	0	0
Winter Storms	0	4	1	0	100,000
Note: Disasters above met 1 or more of the following criteria: Reported damages of \$50,000 or more, at least 1 injury and/or fatality, or Historical Significance. All information is derived from the best data available at the time.					
Source: Maricopa County Multi-Hazard Mitigation Plan, FEMA Approved November 2004..					

Vulnerability

The County has a large number but a modest proportion of population that is potentially vulnerable to hazards. Currently, over 3.5 million residents occupy the County, representing 60.4% of overall State population. Despite the image as a popular home for retirees, there is a fairly youthful population base. The portion of its population both under the age of 18 (27.4%) and over the age of 64 (11.1%) almost parallel the statewide averages for these figures. The County has a relatively new housing stock in the rapidly growing suburban communities, 18% of the County's 1,481,431 housing units were constructed before 1970.

Maricopa County Populations Potentially Vulnerable to Hazards, 2005				
Jurisdiction	Population			
	Total	Under 18 yrs	65+ years	Below Poverty Level
Arizona	6,044,985	1,607,966	773,758	840,253
Maricopa County	3,648,545	999,701	404,988	467,014
As a % of County	100%	27.4%	11.1%	12.8%
As a % of State	60.4%	62%	52%	55.6%
Source: Estimates based on US Census Bureau data, 2007. Poverty Level as defined by US Census Bureau.				

Maricopa County Dwelling Units Potentially Vulnerable to Hazards, 2005		
Jurisdiction	Housing Units	
	Total	Built Before 1970
Arizona	2,544,806	490,710
Maricopa County	1,481,431	262,325
Source: Estimates based on US Census Bureau. Data, 2007.		

Hazards & Mitigation Strategy

Using the results of the County's vulnerability and capability analysis and the goals and objectives, a list of actions/projects was formulated. The actions/projects were then evaluated and ranked using the STAPLEE procedure. Below are the top ranking actions/projects as indicated in the County's Hazard Mitigation Plan approved by FEMA on November 29, 2004:

Using the Historical Record of Hazards in Maricopa County table in the Plan, the top hazards to the County appear to be Flood, Thunderstorm and Drought as they have the largest losses reported.

The following are the top three ranked actions in the Plan:

- 1) FCDMC staff will implement the recently adopted Floodprone Properties Acquisition Policy.
- 2) FCDMC will continue working with County Planning and Development on a cooperative effort to notify developers of Area Drainage Master Plans & floodplain regulations early on in the development process.
- 3) Develop and install Intelligent Transportation System (ITS).



Mitigation Strategy Progress

Through development of this Plan, the need to significantly refine the goals/objectives and actions/projects in our original Plan was evident. We believe this need is a result of the determination to focus the Plan more on natural caused hazards as other hazards are covered in their appropriate plans (i.e. health, terrorism, etc.). There is also much to be said about the increased amount of information available regarding hazard mitigation planning.

To encourage our jurisdictions to re-evaluate their Plan's Mitigation Strategy as well, each County was asked to indicate their action/project progress since the development of their Plan. In response to our request, the County provided the information below in June 2007:

Prioritized Actions	Hazard Mitigated	Progress Summary	Comments
FCDMC staff will implement the recently adopted Floodprone Props Acquisition Policy that defines existing programs for acquisition/relocation especially in situations where a few structures need to be removed from the floodway/floodplain. Floodproofing is included in this policy.	Flooding	On-going since 2004.	22 homes have been removed from floodways.
The FCDMC will continue working w/County Planning & Development on a cooperative effort to notify developers of Area Drainage Master Plans (ADMP's) & floodplain regulations early on in the development process.	Flooding	On-going since 2005.	Ongoing cooperation through one-stop shop program, so continuous improvement will be ongoing
Develop/install Intelligent Transportation System.		Phases I and II completed.	Final phase to be completed in 2007.
Develop/maintain a database of schools, hospitals and other key facilities w/i a one-mile radius of HAZMAT facilities & make that database available to responders to incidents at those facilities.		In the process.	Only the top 11 HAZMAT facilities have been identified, mapped and modeled.
Review existing building codes to determine if the adequately protect new development in hazard areas. Where feasible and necessary, modify codes to help mitigate hazards imposed on such development within the limits of state statutes, while also respecting private property rights.	Flooding	Completed 2006	Building codes regarding military base hazard mitigation complete. Others are still ongoing.
Promote child drowning prevention programs throughout the County.		On-going.	Info on safety is avail on Co website & linked w/the Safe Kids USA. Co agencies have partnered w/the Drowning Prev Coalition of Central AZ
Review existing building codes to determine if the adequately protect new development in hazard areas. Where feasible and necessary, modify codes to help mitigate hazards imposed on such development within the limits of state statutes, while also respecting private property rights.	Flooding	Completed 2006	Building codes regarding military base hazard mitigation complete. Others are still ongoing.
Maricopa County Department of Transportation will inspect and monitor all structures (bridges and box culverts) under their control on a semi-annual basis.	Flooding	Ongoing inspections to be conducted every 2 yrs.	
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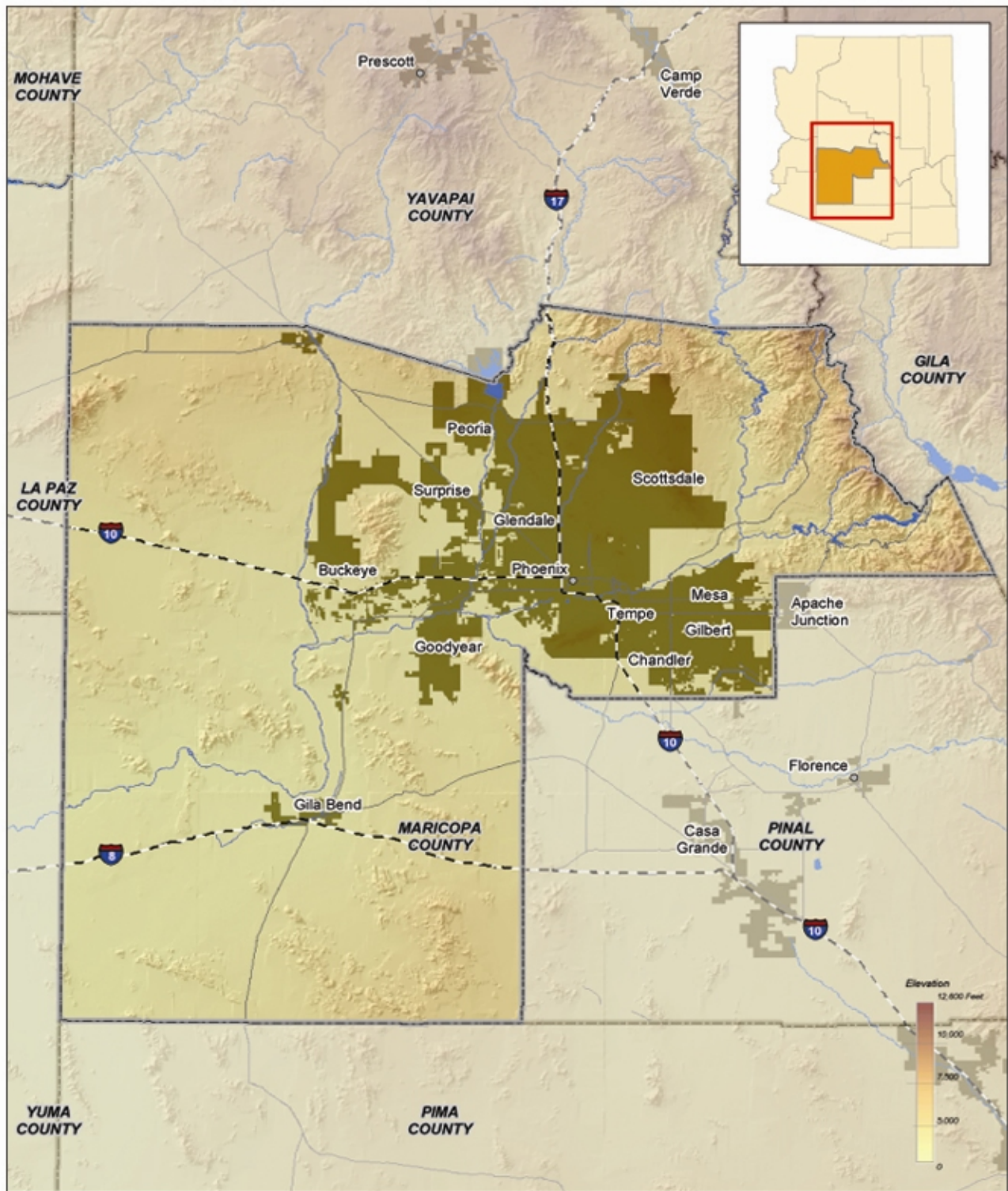
Prioritized Actions	Hazard Mitigated	Progress Summary	Comments
hazards imposed on such development within the limits of state statutes, while also respecting private property rights.			ongoing.
Maricopa County Department of Transportation will inspect and monitor all structures (bridges and box culverts) under their control on a semi-annual basis.	Flooding	On going inspections to be conducted every 2 yrs.	
Pursue partnerships w/NWS and State Universities to research the prediction of microburst.	Severe Storms	Research is on-going.	Possibility of adding features to the FCD ALERT stations.
Conduct/enhance environmental/epidemiological surveillance activities in those areas identified as being of high public health importance & related to environmental factors such as; air quality, drinking water/public water sys & water/wastewater treatment plant operations, food safety and protection and vector control activities. Surveillance activities must include the identification of vulnerabilities and environmental factors that may contribute to the transmission of the communicable diseases associated w/ the operation and presence of these facilities in Maricopa Co, as well as the implementation of preventative action which may be applied to reduce or eliminate the potential for transmission of communicable illnesses. Develop/improve the system of coordination and communication of these findings, trends and observations with other federal, state and local agencies that have similar or related interest.		On-going; air quality, public health and environmental programs.	The Air Quality Department plays a role in biological monitoring through the Bio Watch network working with State Health Department Lab.
Provide County leadership role in support of efforts to limit development in the departure and approach corridors for Luke Air Force Base.		On-going	A bill defining noise attenuation zones was passed and a state fund was created for the purchase of surrounding property.
Through the Maricopa County Regional Leadership program, establish Maricopa County as a central source for regional geographic information system data and information.		On-going	Participation on the last aerial photography included 12 communities, 3 outside agencies & 5 county agencies.
Encourage bridge or culvert construction where roads are in locations susceptible to flooding.	Flooding	4 new structures to be completed in 2007.	Many homes have been identified.
Provide program direction in support and development of Community Emergency Response Teams (CERT) teams.		On-going. At least 15 teams have been formed.	Provided through the County CERT Coordinator.

Other Planning Mechanisms

During their planning process, the County staff reviewed and evaluated their resources and capabilities in the areas of Existing Plans, Policies and Ordinances; Technical Staff/Resources and Financial Resources. Although all resources are important to a community's ability to mitigate the effects of natural and human-caused hazards, we elected to ask the County to complete a survey indicating their legal and regulatory resources to be included in the Plan. We are pleased to receive feedback that reflects awareness of the need for regulations and guidelines that may have an effect on loss reduction. We believe such resources and capabilities can play a critical part in developing and maintaining a more disaster resistant community. The information below was provided by the County in June 2007:



	Yes or	Approval	Responsible	
Plan/Policy/Ordinance	No	Date	Authority	Plan Use/Comments
Building Code	Y	2006	Planning/Dev	Last amended 2006
Zoning Ordinance	Y	2007	Planning/Dev	Last amended 2006
Subdivision Ordinance or Regulations	Y	2006	Planning/Dev	Last amended 2006
Site Plan Review Requirements	Y	2006	Planning/Dev	Part of the subdivision regs.
General or Comprehensive Plan	Y	2007	Planning/Dev	Last amended 2007.
Capital Improvement Plan	Y	2006	County EM	
Emergency Response Plan	Y			
Real Estate Disclosure Statement	Y			
Source: Survey from ADEM to County Emergency Managers, 2007.				



LEGEND

- - Interstate
 - Highway
 - City
 - County
 - County Seat
 - Major Stream
 - Lake
- 0 5 10 20
Miles



State of Arizona
Multi-Hazard Mitigation Plan

Map 10 Major Features of Maricopa County